MODIS sensor Working Group (MsWG) Summary October 20, 2004

Attendance: Bill Barnes, Stuart Biggar, Vincent Chiang, Roger Drake, Gerhard Meister, Chris Moeller, Nazmi Saleous, Junqiang Sun, Gary Toller, Eric Vermote, Zhengming Wan, Jack Xiong

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Scheduled Agenda

Item 1: L1B LUT delivery

- Aqua regular m1 V4.3.1.11 update sent to DAAC on Oct 1.
- Aqua special m1 V4.3.1.11_OC for ocean testing sent to Ocean Group on Oct 10.
- Terra regular m1 V4.3.0.17 update sent to DAAC on Oct 18.

Item 2: Instrument operations – Terra UART resets

On 2004/292 (Oct 18) Terra MODIS telemetry "SS_CP_UART_RESET" reset count increased from 122 to 125. The UART (Universal Asynchronous Receiver-Transmitter) controls communications between the CP (Control Processor) and the FP (Format Processor). Roger and Joe (SBRS) have been working on this for any impact to the instrument.

- It happened around 00:07 UT. No TAXI errors were reported. No other anomaly detected due to this event. Only B28 detector 1 (PO) b1 increased for about 1% during the UART reset time frame. However, this detector's gain has been fluctuating within +/-1% after June 23 (reported already).

RD) We received data from MODIOT. What happened was the command process and formatter lost communication to each other. What triggered that event is still unknown. We have the tracking patch software in place to monitor any change.

JX) The last time it happened was on 2003/138 when reset count increased from 119 to 122. Aqua is in normal operation. It will perform the SRCA activity for an orbit soon.

Item 3: Terra Band 30 detector 10 (PO) b1 changed on 2004/292

Later on the same day of Terra UART reset event, the B30 detector 10 (Product Order) b1 increased for about 4% at 23:50 UT, nighttime orbit inside the SAA region. There was a DCR change associated with this gain change. The NEdT of this detector also increased afterwards.

RD) This is the first time we see the gain change like this on this detector. We will probably not make a major effort on this at the time of the mission. But I will check with the focal plane people to look at this. We saw similar things happened early during the PFM mission, but not for FM1.

Item 4: Terra m1 change (not in the agenda)

JX) We just found out there were 2 orbits of SD Cal that all RSB m1 changed (day 2004/288, Oct 14, first 2 orbits). The m1 of first orbit increased about 15%. It impacts to all RSB detectors. The SV DN did not change and no DCR change either. We suspect something blocked the SD view between the Sun and the SD, because the m1 came back after two orbits. Maybe the Ocean or Atmosphere groups can take a look at the EV data during that period for any change.

SB) Was the SDSM scheduled?

JX) There was no SDSM calibration at the time. We do not run SDSM every orbit like the SD is doing. (Note: Terra SD door is kept open right now.)

RD) I suggest to look at TEB response over the SD and the DCR.

JX) The TEB detector itself did not change. We are still unfolding this. The EV data is very important to us. Note that the m1 table was not updated for those two orbits.

(Note: It turns out there was a partial solar eclipse near the North Pole at that time. See the package sent out by MCST on 10/22.)

Around the Table

Participant: Jack Xiong – RSR and central wavelength issue

JX) Thanks Dr. Wan and Chris for the detector-to-detector RSR inputs. They are helpful to us. We will produce the TOA temperature conversion table and send to you for review.

ZW) I am ok with that.

Participant: Gerhard Meister – Aqua MODIS point spread function

GM) I am trying to get MODIS point spread function and pre-launch near field response, Aqua first and Terra later. Does SBRS have any report or data I can take a look?

JX) We gave Gerhard the MCST memos prepared by Farida. I remember SBRS only did center detector, or all detectors? Did the test cover 20-30km pixels?

RD) It's only for center detector covering 20-30km. And it's for scan direction, not in track direction. We measured to 10^{-6} level. We have report for that. I'll send it to Gerhard first.

Participant: Eric Vermote – SWIR de-striping in collection 5

EV) We continue on de-striping correction and polarization issue. We will apply the empirical correction for B5, 6, and 7 in collection 5. We have everything from Wisconsin to proceed.

Participant: Chris Moeller – Band 26 de-striping coefficient for collection 5

CM) I got some L1B test data from Vincent. I should have the A-side 2 coefficients soon. What we will see in A-side 2 new coefficients will tell us what should we do on the B-side and A-side 1 coefficients.

Participant: Stuart Biggar – MISR/MODIS comparison

SB) We have been working on MISR and MODIS comparison. The first 3 MISR bands agree with MODIS very well now. The NIR IR band (last band) still needs to be improved.

JX) MISR adjusted red band for about 3% for the aerosol to meet the science requirement.

Next MsWG meeting scheduled on November 3, 2004